

WHAT IS CLAIMED IS:

1. An auto-focus apparatus comprising:

emitting means for emitting an irradiation wave for irradiation to a subject while changing an emitting angle of said irradiation wave;

detecting means for detecting an incident angle of a reflected wave of said irradiation wave reflected by said subject, incident on light receiving means positioned corresponding to said emitting means;

determining means for determining based on said emitting angle and said incident angle whether or not said subject is a subject for which the focus should be adjusted; and

adjusting means for adjusting the focus on said subject when determining that said subject is the subject for which the focus should be adjusted.

2. The auto-focus apparatus according to claim 1, wherein

said emitting means emits an infrared ray emitted from an eye safe laser diode.

3. The auto-focus apparatus according to claim 1, wherein

said emitting means controls emission power of said irradiation wave in accordance with a change in the emitting angle of said irradiation wave.

4. The auto-focus apparatus according to claim 1, wherein
said determining means comprises a storage means for storing
sampling data of said emitting angle and said incident angle.

5. The auto-focus apparatus according to claim 4, wherein
said determining means comprises a storage means for storing
correspondence data of said emitting angle and said corresponding
incident angle.

6. A focus adjusting method comprising the steps of:
emitting an irradiation wave from irradiating means for
irradiation to a subject while changing an emitting angle of said
irradiation wave;

detecting an incident angle of a reflected wave of said
irradiation wave reflected by said subject, incident on light
receiving means positioned corresponding to said emitting means;

determining based on said emitting angle and said incident
angle whether or not said subject is a subject for which the focus
should be adjusted; and

adjusting the focus on said subject when determining that said
subject is the subject for which the focus should be adjusted.

7. The focus adjusting method according to claim 6, wherein
said emitting means emits an infrared ray emitted from an eye
safe laser diode.

8. The focus adjusting method according to claim 6, wherein
said emitting means controls emission power of said
irradiation wave in accordance with a change in the emitting angle
of said irradiation wave.

9. The focus adjusting method according to claim 6, wherein
said determination is made based upon stored sampling data of
said emitting angle and said incident angle.

10. The focus adjusting method according to claim 6, wherein
in said determination, said sampling data is selected based
upon stored correspondence data of said emitting angle and said
corresponding incident angle.

11. An image capturing apparatus comprising:

emitting means for emitting an irradiation wave for
irradiation to a subject while changing an emitting angle of said
irradiation wave;

detecting means for detecting an incident angle of a reflected
wave of said irradiation wave reflected by said subject, incident
on light receiving means positioned corresponding to said emitting
means;

determining means for determining based on said emitting angle
and said incident angle whether or not said subject is a subject

for which the focus should be adjusted; and

adjusting means for adjusting the focus on said subject when determining that said subject is the subject for which the focus should be adjusted.

12. The image capturing apparatus according to claim 11, wherein said emitting means emits an infrared ray emitted from an eye safe laser diode.

13. The image capturing apparatus according to claim 11, wherein said emitting means controls emission power of said irradiation wave in accordance with a change in the emitting angle of said irradiation wave.

14. The image capturing apparatus according to claim 11, wherein said determining means comprises a storage means for storing sampling data of said emitting angle and said incident angle.

15. The image capturing apparatus according to claim 14, wherein said determining means comprises a storage means for storing correspondence data of said emitting angle and said corresponding incident angle.

16. An image capturing method comprising the steps of:
emitting an irradiation wave from irradiating means for

irradiation to a subject while changing an emitting angle of said irradiation wave;

detecting an incident angle of a reflected wave of said irradiation wave reflected by said subject, incident on light receiving means positioned corresponding to said emitting means;

determining based on said emitting angle and said incident angle whether or not said subject is a subject for which the focus should be adjusted; and

adjusting the focus on said subject when determining that said subject is the subject for which the focus should be adjusted.

17. The image capturing method according to claim 16, wherein said emitting means emits an infrared ray emitted from an eye safe laser diode.

18. The image capturing method according to claim 16, wherein said emitting means controls emission power of said irradiation wave in accordance with a change in the emitting angle of said irradiation wave.

19. The image capturing method according to claim 16, wherein said determination is made based upon stored sampling data of said emitting angle and said incident angle.

20. The image capturing method according to claim 19, wherein

in said determination, said sampling data is selected based upon stored correspondence data of said emitting angle and said corresponding incident angle.